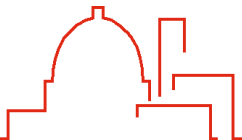

SMUD Energy Efficiency

History and Lessons Learned

**Presented to the California Energy Commission
7/11/05**



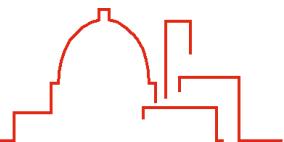
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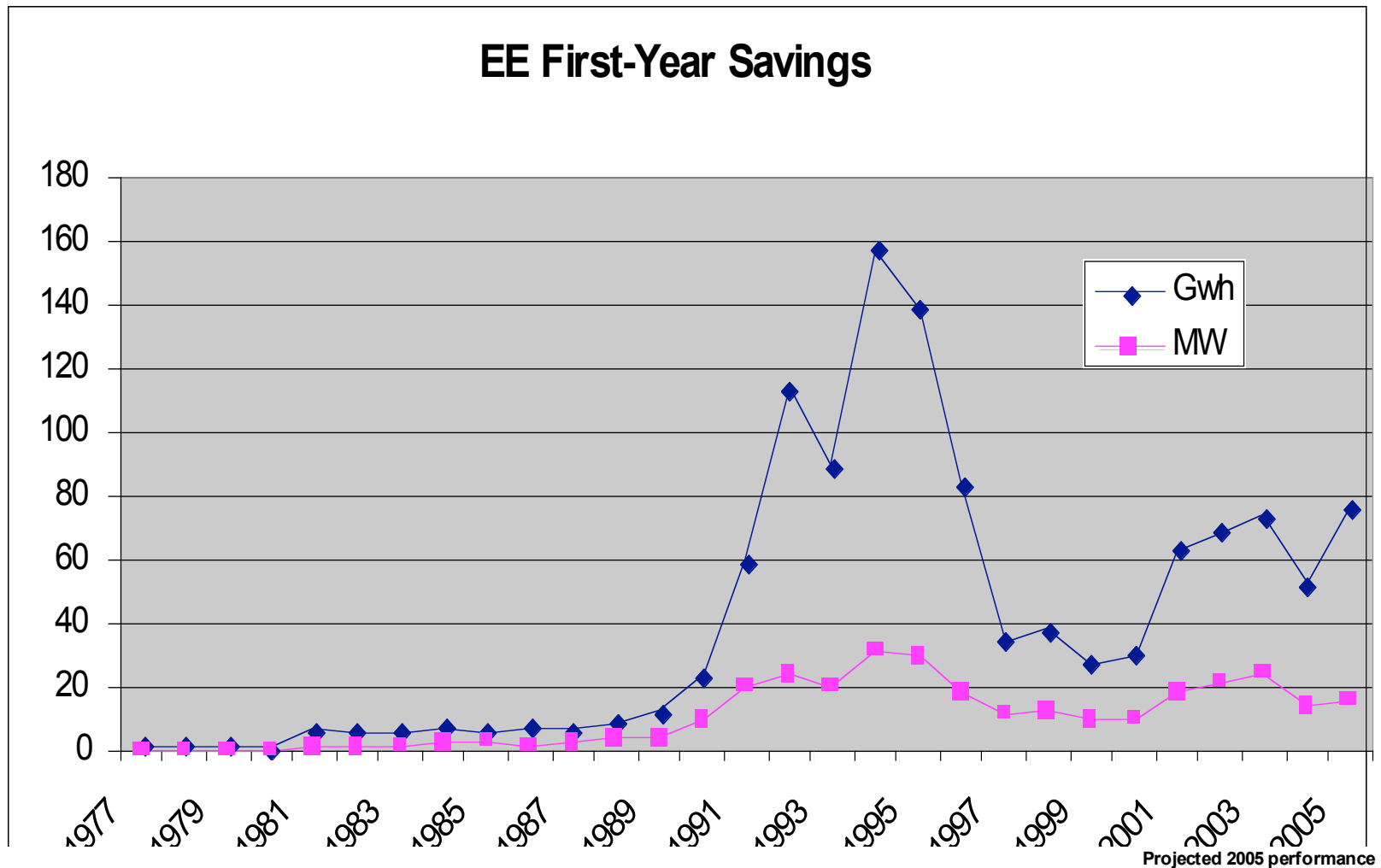
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SMUD Energy Efficiency Accomplishments

- **Ongoing Energy Efficiency Program for 29 Years**
- **Saved 10.0 billion kWh (\$820M in electricity)**
- **Cut summer peak load by 300MW**
- **Avoided over 5.5 Million tons of CO2 and other pollutants**
- **Planted over 367,000 Shade Trees**
- **Invested over \$420M in programs and incentives and another \$370M made available for EE Loans**



SMUD 30 Year Energy Efficiency History



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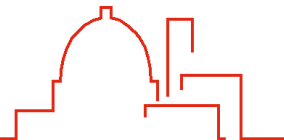
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Major shift in EE Programs due to Rancho Seco Closing



- **EE approach championed by GM S. David Freeman and new Board of Directors**
- **Conservation Power Plant philosophy**
 - **Attempted to meet 100% of Rancho Seco Load through energy efficiency (913MW)**
- **Financed through capital expenditures**
- **Emphasis on kW versus kWh**
- **EE levels started to fall in 1994 to respond to market deregulation activities**



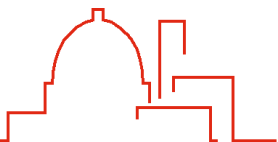
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AB 1890 was the next large program influence

- **Transition toward deregulation**
- **Advent of Public Goods funding**
- **SMUD exceeded minimum required spending levels**
 - **3.7% of 1994 Revenues versus 2.85% requirement for Public Goods**
 - **EE has averaged 2.6% of 1994 Revenues on a standalone basis**
 - **Does not include SB-5X funding**
- **Shifted priority from kW to kWh**



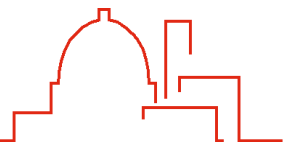
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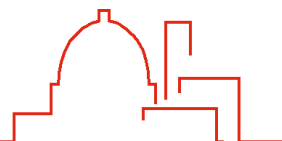
SMUD has followed recent CPUC/CEC EE restructure closely

- **Attending many of the larger EE related proceedings**
 - Administration
 - Procurement
 - Avoided cost
- **Supported the NRDC “Reaching New Heights” administrative structure proposal**
- **Augmented 2005 Energy Efficiency Budget with \$2.5M of procurement resource funding**
- **Evaluating EE funding levels to maintain leadership in the industry**



SMUD Energy Efficiency Program Philosophy

- **Programs need to support Board Policies**
 - Discussed in policy panel
- **Provide benefits to all customer classes**
- **Strive for high customer satisfaction**
- **Historical emphasis on kW versus kWh for load profile**
- **Support strategic industry efforts to help transform markets and leverage additional resources**



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What Programs have Excelled

- **Small Commercial Lighting**
 - Hard to reach customers,
 - High Participation
- **High Efficiency Residential HVAC**
 - Directly addresses primary cause of peak load
 - Good market penetration and contractor involvement
- **Shade Tree Program**
 - High customer satisfaction



Over 150,000 Customers



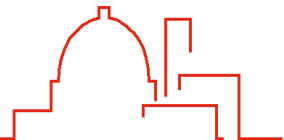
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Excellent Programs Continued

- **New High Efficiency Refrigerator Rebate Program**
 - Golden carrot market transformation support
 - High Customer participation
 - High Customer satisfaction
- **Residential New Construction Advantage Home Program**
 - Significant market penetration and market transformation
- **Commercial Customized Incentive Program**
 - High Customer Satisfaction
- **Financing Program**
 - High Customer participation
 - Significant incentive to participate in other programs (HVAC, Windows, etc.)



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What have we learned

- **Need strong Board, Executive Management and public support**
- **Have to be flexible to meet customer needs**
- **Successful programs typically involve all stakeholders (e.g., retailers, contractors, manufacturers and customers)**
- **Working with regional and national efforts supports stronger market transformation**
- **Contractor driven programs are very effective**
- **Strong Research and Development efforts support programs**



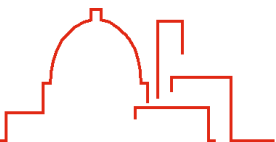
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Upcoming Challenges

- **Surpassing Title 24 Standards with new technologies, new program delivery and new marketing strategies**
- **Incorporating environmental value streams into programs**
 - **Climate Change**
 - **Criteria Pollutants**
 - **Energy Security**
- **Maintaining Local Control to meet our customer needs**
- **Adjusting EE Program to address State goals**



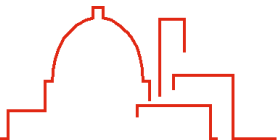
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Summary

- **SMUD is a strong supporter of energy efficiency by choice**
- **Program funding has exceeded state requirements**
- **Strong customer satisfaction elements with all programs**
- **Supports community environmental protection efforts**
- **Supports regional and national market transformation**



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